

## Claims

1. A computer implemented method of analyzing frames on a process control bus,  
the method comprising:
  - 5 selecting a frame to be analyzed;  
using a text file to identify function code formats; and  
calculating values for fields based on the function code formats.
2. The method of claim 1 and further comprising providing the values of the fields to  
10 a display.
3. The method of claim 1 and further comprising reading data from a text file prior  
to selecting a frame.
- 15 4. The method of claim 3 and further comprising storing data from the text file in a  
data structure.
- 20 5. The method of claim 4 and further comprising searching for a matching record for  
the frame in the data structure.
6. The method of claim 1 wherein calculating values for fields based on the function  
code formats comprises finding a value in the frame and matching it to a corresponding  
verbal description from the text file.
- 25 7. A computer readable medium having instructions stored thereon to cause a  
computer to implement a method of analyzing frames on a process control bus, the  
method comprising:
  - selecting a frame to be analyzed;  
using a text file to identify function code formats; and  
30 calculating values for fields based on the function code formats.

8. The computer readable medium of claim 7, wherein the method further comprises providing the values of the fields to a display.
9. The computer readable medium of claim 7, wherein the method further comprises  
5 reading data from a text file prior to selecting a frame.
10. A system for interpreting packets on a process control bus, the system comprising:  
a communication module for coupling to the process control bus;  
a receive queue that receives a frame from the communication module;  
10 an interpretation file; and  
a receive module that compares records in the frame with records in the interpretation file to provide a user viewable interpretation of the frame.
11. The system of claim 10 and further comprising a statistics module coupled to the  
15 receive queue for generating statistics regarding frames received from the process control bus.
12. The system of claim 11 wherein the statistics provide information selected from  
the group consisting of function codes, number of frames, errors, master identification  
20 and slave identification.
13. The system of claim 10 and further comprising a data link layer that identifies packets of data in frames.
- 25 14. The system of claim 10 and further comprising an interpretation editor for modifying the interpretation files.
15. The system of claim 10 wherein the interpretation file comprises a text file having information about data packets moving on the control bus.
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16. The system of claim 15 wherein the text file comprises identifications of function codes and information regarding the interpretation of such function codes.
17. The system of claim 16 wherein the function codes are selected from the group consisting of power exhaust status, Enthalpy configuration, call for cooling, fan state, Enthalpy control, Enthalpy mode, shutdown, baud rate, slave address and reserved.
18. The system of claim 10 and further comprising means for converting an interpretation file into structured records a data structure for use by the receive module in interpreting frames.
19. The system of claim 10 and further comprising a log file coupled to the interpretation file, wherein the log file contains data received from the control bus.
20. The system of claim 19 and further comprising an offline viewer coupled to the log files and interpretation file that interprets data packets in frames.
21. A system for interpreting packets on a process control bus, the system comprising:  
a receive queue that receives packets of data in frames on the process control bus;  
an interpretation file; and  
a receive module that compares records in the frame with records in the interpretation file to provide a user viewable interpretation of the frame, wherein the receive module generates a user viewable screen of information describing the frames, and comprising a pane for each selected frame that identifies interpretations of fields in the frame.
22. The system of claim 21 and further comprising a screen for configuring and setting options for monitoring frames on the process control bus.
23. The system of claim 21 and further comprising a statistics screen.